Systemic Journey Map

Applicant (Primary)

What is the role of the user group?

Individuals seeking to begin a doctoral journey and use TUMApply to find, understand, and apply to doctoral positions at TUM.

Why does this user require the service that you have designed?

- Access to transparent, inclusive, and accessible information on doctoral opportunities
- Ability to submit applications fairly, independently, and without hidden rules
- Guidance for navigating academic expectations and the application process

Is there anything else you want to note down about the user group?

- Lack of insider knowledge about academic norms
- Fear of discrimination based on background, nationality, disability, or grades
- Difficulty understanding requirements due to complexity
- Limited mentorship or network support

Professor (Secondary)

What is the role of the user group?

Professors and principal investigators who create doctoral positions, review applications, and make final decisions about which candidates join their research groups.

Why does this user require the service that you have designed?

- To recruit research staff
- To efficiently review applicant information in a structured and comparable way
- To reduce administrative burden and streamline hiring processes
- To clearly communicate position requirements and expectations to applicants
- To ensure fair, transparent, and consistent selection across different applicants and backgrounds

Is there anything else you want to note down about the user group?

- Time constraints and high workload limit their ability to manually interpret inconsistent documents
- High academic privilege can make systemic barriers less visible to them
- Difficulty comparing applicants from diverse educational and cultural backgrounds
- Risk of relying on subjective impressions (habitus, grades, prestige) rather than potential
- Lack of training in bias-aware or inclusive hiring practices

Admin (Secondary)

What is the role of the user group?

Administrative staff and system maintainers who ensure compliance, maintain the TUMApply platform, and support both applicants and professors throughout the process.

Why does this user require the service that you have designed?

- To streamline communication between applicants and professors
- To maintain an efficient, standardized workflow with fewer manual interventions
- To ensure data integrity, proper formatting, and regulatory compliance
- To support applicants through a reliable, accessible, and transparent system

Is there anything else you want to note down about the user group?

- They often handle applicant confusion caused by unclear UI or missing information
- They rely on a system that supports accessibility and minimizes applicant mistakes
- They must balance the needs of both applicants and faculty while ensuring fairness

Journey Phases Break the experience into clear stages.	Becoming Aware	Exploring Possibilities	Creating Applications	Awaiting Outcome	Outcome
User Actions What does the user actually do at this stage?	• Search for general information ("Who is eligible to apply for Doctoral Degree at TUM") • Visit TUM department or Graduate School pages to get information • Find out about doctoral opportunities and decide whether they should pursue one • Draft job descriptions or research topics for upcoming positions. • Ensure information is accessible, correct, and easy to find • Provides enough information for all types of applicants	• Compare programs, supervisors, research topics, financial needs • Read departmental requirements • Provide detailed research topics or open positions • Clarify expected skills, workload, funding conditions • Answer academic-level questions forwarded by admin • Organize info events for doctoral programs by unit, topic, and eligibility • Provide filters and navigation tools on the platform • Respond to applicant inquiries	• Gather documents (CV, certificates, transcripts, statements) • Create TUMApply account and begin filling out forms • Upload files and complete required fields • Contact support for any unclarities • Ensure data integrity and compliance with legal and data protection rules	• Check application status in TUMApply. • Receive emails with updates or additional requests • Contact support when unclear • Monitor messages • Prepare for interviews • Clarify deadlines or missing documents • Review submitted documents (CVs, transcripts, research proposals) • Shortlist candidates based on fit and potential • Enter evaluation decision in the platform	• Accept offer or receive rejection • Begin onboarding or prepare to reapply • Acceptance or rejection • Write interview invitations or rejection notes • Provide minimal feedback to help future applicants • Notify about official acceptance, rejections, or follow-up instructions. • Update system statuses
User Goals What do they want to achieve here?	• Become aware that a doctoral path exists and understand that it could be accessible for people like them • Understand whether a PhD is possible for them • Promote doctorial positions with sufficient information • Applicants receive correct and timely information • Reduce repetitive questions • Support and guide users	Find program that suits the user best • Receive applications from suitable, well-informed candidates • Attract qualified and diverse applicants • Help users compare opportunities easily • Reduce misunderstandings about requirements	• Complete application correctly and confidently • Understand application requirements in plain, accessible language • Smooth and transparent application flow	• Understand next steps • Wait for review • Predictable timeline • Feeling that the process is fair and transparent • Make fair and informed selection decisions • Compare candidates efficiently • Receive applications from suitable, well-informed candidates • Smooth and transparent review	• Understand next steps clearly • Convey decisions respectfully and clearly • Make the process transparent and traceable
Pain Points / Needs What problems do they face? What support or resources do they need?	Pain Points: • Not enough information regarding doctoral requirements • Overwhelming jargon and scattered information • Understand visa requirements, etc for doctoral application Needs: • Support point where applicants can freely ask questions (anonymously) • Simple, inclusive language; centralized overview; anonymous Q&A • Lack of time to prepare clear descriptions • Difficulty expressing requirements without discouraging diverse applicants • Need clear instructions from departments • Struggle with inconsistent information coming from different research groups/ departments	• Need: All information displayed understandable for any kind of background (language, etc.) • Pain: Applicants frequently contact professors directly due to unclear info • Applicants often misinterpret unclear requirements • Need structured data from professors to publish accurately	Pain: • Confusing form fields. • Jargon difficult for non-native speakers. • WCAG issues: low contrast, keyboard traps Need: • Clear instructions, accessible layout, translated tooltips, autosave. • Need multilingual support	• Needs: Users must be given a clear set of a timeline and next steps while waiting for their result • Clear, predictable communications; interview accommodations (perhaps also special accommodations for disabled users) • Unclear or inconsistent application structure makes comparison difficult. • Time pressure → risk of bias having impact on decisions. • Need standardized applicant summaries. • Delays from professors create applicant stress that admins must handle.	• Rejection letters often have no constructive feedback. • Lack of constructive guidance disproportionately harms first-gen, international, and marginalized applicants. • Need: transparent, supportive outcomes and clear onboarding. • Rejections often lack time for personalization. • Risk of discouraging applicants, especially marginalized groups. • Need templates that are respectful and inclusive.
Gains *What benefits or positive outcomes do they get at this stage?*	• Clarity whether they would be suitable for a doctoral position • Clarity about what a doctoral position entails • Confidence that they are qualified to apply • Better transparency leads to better-matched candidates. • Reduced bias because expectations are stated upfront. • Reduce user confusion • More equal access and diversity for applicants thanks to large amount of information on doctorial positions.	• Clearer overview of different doctoral positions that are available • Higher-quality applicants. • Less administrative overhead. • Improved findability of positions. • Fewer emails asking for clarification.	• Sense of independence, reduced confusion and higher applicant confidence → higher number of applications. • Fewer mistakes → higher application quality.	• Understand next steps. • Emotional stability and sense of fairness. • Reduce stress while waiting for review. • Streamlined review process. • More comparable applications → fairer decisions. • Predictable workflows. • Less user stress/ confusion	• Feeling respected regardless of the result, and not lose confidence in applying to further doctoral positions. • Strengthened motivation and academic inclusion. • Clear communication strengthens trust in the academic system. • Predictable workflows. • Improved user satisfaction with the platform.
Environmental Impact How does this step affect the environment? (energy use, waste, travel, resources).	• Assuming we will use email forms for this, emails generate 0.2-26g of CO2 emissions • Less repeated searches → less server load	• Users do not revisit many pages due to clear info → reduce energy consumption	• Large uncompressed PDF uploads would lead to higher server load → Digital sustainability guidelines needed	• Automated alerts eliminate the need for manual refreshing, significantly reducing redundant server requests and cumulative energy load • Transparent Processing Timelines: Clear, visible "next step" expectations and delivery estimates reduce unnecessary page revisits, streamlining digital traffic • Less manual paper based work while reviewing applications	• As the platform starts legal processes, this saves paper work and digital communication which saves energy aswell
Social Impact How does this step affect people or communities? (fairness, inclusion, equity, collaboration).	• Ideally fair and provides equal opportunities and enlightenment to all applicants, allowing inclusion to all types of people • Reduces privilege gaps • Makes academia feel more accessible	• Should support first-generation, non-native speakers, and marginalized groups • Reduces dependence on personal networks • Opens up doctoral position information for all interested applicants from different backgrounds and unis	• Accessible design leads to equitable participation • Prevents exclusion due to disability, language, or unfamiliarity	• Supports neurodiverse users and those with lower bureaucratic familiarity • Reduces stress and doubt especially for marginalized or unsupported applicants, or those that have anxiety • Openness to a diverse applicant pool • providing a large amount of people oppurtunities to apply	• Fair, empathetic communication supports applicant wellbeing and equity
Data / Others	• https://carbonliteracy.com/the-carbon-cost-of-an-email/ • https://doi.org/10.1080/13603108.2024.2387081 • https://doi.org/10.1080/00131911.2024.2306950 • https://doi.org/10.1016/j.heduc.2008.06.007 • https://doi.org/10.1080/13603108.2024.2387081 • https://doi.org/10.1080/13603108.2024.2387081	• https://doi.org/10.1515/libri-2019-0015 • https://doi.org/10.1080/00131911.2024.2306950 • https://doi.org/10.1080/13603108.2024.2387081 • https://doi.org/10.1007/978-3-319-20889-3_13	• https://doi.org/10.1111/j.1468-2389.2009.00473.x • https://doi.org/10.1515/libri-2019-0015 • https://doi.org/10.32479/irmm.16721	• https://doi.org/10.1017/jmo.2025.11 • https://doi.org/10.1177/0170840610380812	• https://doi.org/10.1017/jmo.2025.11 • https://doi.org/10.1007/s10799-012-0117-x • https://doi.org/10.1007/s10799-012-0117-x • https://doi.org/10.1177/0170840610380812